

The Two Cultures Revisited. Stanisław Lem's His Master's Voice

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Abstract. I would like to take, as my starting point, the famous 1959 lecture of C. P. Snow, *The Two Cultures*, where science fiction is by and large ignored, and see how the consecutive points Snow is making are also discussed in the following decades of the 20th century by other philosophers of science, among them Stanisław Lem, Steven Weinberg, and Jonathan Gottschall. In 1959 Snow postulated re-uniting the two cultures through the reform of education. In the 1960s and 1970s Lem did not believe in any reform, but prophesied that science left alone would procure the final war and, probably, the self-inflicted technological death of the West. I am then going to juxtapose Snow's argument with a science fiction novel concerned with the same civilizational crisis: Stanisław Lem's *His Master's Voice*.

Keywords: Stanisław Lem; science fiction; science versus humanities; catastrophe

Since the Enlightenment, the West¹ has been experiencing rapid technological progress, which, among other consequences, has resulted in two phenomena: the much-lamented split of its intellectual elite into physical scientists and humanities scholars and an increase in communication difficulties between these two groups.²

¹ For the sake of the clarity of my argument here, I assume that the contemporary Western culture is one, which is to say, it is possible to discuss books originally written in English as well as those translated into English on the same plane if they have been written by authors sharing the same globalized cultural competence.

² In the mid-20th century, science fiction was described by John W. Campbell as literature which explores the impact of technology on human beings and human social systems. (Scholes and Rabkin 141). At the time, the intellectual crisis of the West was already apparent and discussed by both scientists and artists, and yet they did not seem to notice its intellectual possibilities. Perhaps it is worth recalling here Patrick Parrinder's opinion that "the denial of any connection between science fiction and science is a species of deliberate heresy." (Parrinder 2002: 67) Parrinder goes on to note that in the 1950s and early 1960s science fiction was "a largely ingrown community, cut off from the mainstream of literary culture by their unspoken support for the values of scientists and technologists." (*Ibid.* 61)

This has produced a contemporary culture in which technology is much more important than either science or art.³

I would like to take, as my starting point, the famous 1959 lecture of C. P. Snow, *The Two Cultures*, which largely ignores science fiction, and see how the consecutive points Snow makes were discussed in the decades that followed by other philosophers of science, among them Stanislaw Lem, Steven Weinberg, and Jonathan Gottschall. I will then juxtapose Snow's argument with a science fiction novel concerned with the same civilizational crisis: Stanislaw Lem's *His Master's Voice*. What I aim to achieve is to place Lem's novel within the frame of 20th and 21st-century discussions concerning the dehumanisation and depersonalisation of contemporary culture.

The Widening Gap

C. P. Snow (1905–1980), was an English scientist and a man of letters who was both an academic physicist and a widely acclaimed novelist, whose books depicted English intellectuals: politicians, university professors, and other professionals. The two careers that he pursued simultaneously put him in a very special position; he belonged both to the world of the arts and the world of the sciences. For lovers of the mid-century social novel, Snow is the author of *Strangers and Brothers*, an 11-volume cycle of books picturing his alter ego, Professor Lewis Eliot, during a period of over thirty years. Eliot narrates what he sees around him during different moments of his life in minute detail, from his days as a schoolboy to those as a student and then as a science professor. As Eliot's life and ideas are, more or less, Snow's own, a substantial part of *Strangers and Brothers* depicts British scientists in the mid-20th-century⁴.

Snow's opinions and reflections on mid-century intellectual life in Britain expressed in his novels by Eliot are also written down explicitly in the seminal text *Two Cultures and a Scientific Revolution*. This lecture commenced a serious debate on science and progress. Within the lecture, Snow expresses his genuine amazement that so very little of 20th-century science is assimilated

³ Interestingly enough, the more acute the crisis is, the more seriously science fiction (especially dystopias and post-apocalyptic fiction) is taken. The mid-and late 20th-century reception of the writer I discuss here, Stanislaw Lem, by both science-fiction and mainstream critics demonstrates this point.

⁴ In particular *The Masters*, a novel set during World War II in an unnamed Cambridge College that resembles Christ's College, where Snow was a fellow, is a good example of a mimetic picture of his milieu.

by 20th-century art. References to the New Physics that can be found in contemporary novels are only inch-deep: Snow mentions namedropping and using “learned” terms derived from science: “there was a time when ‘refraction’ kept cropping up in the verse in a mystifying fashion”, he complains. (Snow 1961: 16) The worst is that virtually no artist has bothered to understand what the newest research is about: “So the great edifice of modern physics goes up, and the majority of the cleverest people in the Western world have about as much insight into it as their Neolithic ancestors would have had.” (*Ibid.* 18)

Snow’s point appears justified if we look at the kind of novels he has in mind. Nevertheless, when compared to, for example, the early 20th-century classic *Ulysses*, by James Joyce, it seems that novels written just a decade or two later present non-scientist protagonists⁵ with much more awareness of the rapid development of modern physics. Written during the First World War, *Ulysses* takes place in 1904, a year before Albert Einstein published his five famous papers paving the way for a range of theoretical developments in physics in the twentieth century, the so-called New Physics. However, it was only after the 1919 eclipse of the sun, which allowed Arthur Eddington to empirically prove the theory of relativity,⁶ that Einstein became a household name among the European and American middle-class. In the mid-20th century, physics apparently did make its way to the mainstream British novel – references to new discoveries became rather fashionable, yet, in most cases, ‘the New Physics’ remained something one should just talk about. At the time, referring to modern science in fashionable society (and mainstream fiction) was the done thing and sometimes novelists with a propensity for social satire poked fun at this vogue. The eponymous protagonist of Muriel Spark’s *The Prime of Miss Jean Brodie*, an eccentric teacher focused on grooming her charges for cultured society, teaches them how to converse on the newest rage – relativity. Yet she does not even try to understand what this theory is about, after all, she is a fashionable lady who still counts on her fingers (Spark 1994: 2). In the preface to *Balthazar*, the second volume of *The Alexandria Quartet*, Lawrence Durrell gives Einstein and Einstein’s theories as his inspiration for devising the multiple points of view narrative strategy he used in this famous tetralogy (Durrell

⁵ Joyce’s Leopold Bloom, who describes his own temperament as “scientific” (Joyce 1992: 789), references the science lessons he remembers from school in his inner monologues. Yet, he only remembers some optics and some Newton: “32 feet per second, per second. Law of falling bodies, per second, per second... It’s the force of gravity of the Earth is the weight.” (*Ibid.* 87)

⁶ See for example Pedro G. Ferreira, *The Perfect Theory. A Century of Geniuses and the Battle Over General Relativity*.

1958: 5). Nevertheless, his understanding of the New Physics is very limited: things are relative; therefore, four observers see the world from four different perspectives.

Looking back, Snow's irritation at this physics-is-wonderful fashion, as expressed in 1959, seems nothing but prophetic. In the last decades of the twentieth century, this 'name- and term-dropping' attitude to physics in humanities discourses became quite popular. In 1994, Alan Sokal sent a sham contribution to *Social Text* periodical that reviewed current activities of physics in the context of fashionable postmodern schools in cultural, philosophical and political studies. The main thesis of his article, enigmatically titled "Transgressing the Boundaries – Toward a Transformative Hermeneutics of Quantum Gravity," is that science is far from objective and that scientific discourse is always the product of a given socio-political context, so that, for instance, Newton's approach to gravity results from the constraints of the late 17th-century British society he lived in. The board of editors at *Social Text* liked the article and published it in 1996, in the Spring/Summer issue. Then Sokal himself revealed the hoax in an article for another journal, *Lingua Franca* calling "Transgressing the Boundaries" sheer nonsense and explaining that his aim had been to attract attention to the decline of academic standards in the humanities, whose luminaries have ideological preconceptions and love very learned and obscure-sounding discourse. As long as a given text sounds hermetic and liberally uses terms borrowed from science, it is considered insightful. In his article, Sokal also mentions 'serious' texts by famous intellectuals that he also considers nonsense, such as the following excerpt from the guru of deconstructionism, Jacques Derrida, who clearly misuses scientific diction:

The Einsteinian constant is not a constant, is not a centre. It is the very concept of variability – it is, finally, the concept of the game. In other words, it is not the concept of something – of a centre starting from which an observer could master the field – but the very concept of the game. (Quoted after Weinberg 1996)

By proving how exhausted postmodern humanities are, Sokal's hoax served a public purpose and, for this reason, it was immediately unmasked⁷, adding to the increasing erosion of public esteem for the humanities. His parody is not only concerned with the pompous style of fashionable literary essays but

⁷ Notably in Sokal 1996 and Sokal 1997. What followed can only be described as an international scandal, with French, American, and British academics publishing polemics, letters of protest, and articles in scholarly periodicals and such daily newspapers as *The Guardian* and *The New York Times*.

also with the underlying assumption that you cannot describe the universe objectively because no external nature exists that we can study. To quote Frederic Jameson, "postmodern is what you have when... nature is gone for good." (Jameson 1991: ix) In "Sokal's Hoax," Weinberg notices that –

Sokal's satire occupiessk a broad intellectual range. There are those "postmoderns" in the humanities who like to surf through *avant garde* fields like quantum mechanics or chaos theory to dress up their own arguments about the fragmentary and random nature of experience. There are those sociologists, historians, and philosophers who see the laws of nature as social constructions. There are cultural critics who find the taint of sexism, racism, colonialism, militarism, or capitalism not only in the practice of scientific research but even in its conclusions. (Weinberg 1996)

As an academic physicist himself, Weinberg (who holds the Josey Regental Chair in Science at the University of Texas at Austin and who was awarded the Nobel Prize in Physics for his work on the theory of particles and fields) explains that scientists are not only forced to use the language of mathematics in their publications, but that they are also expected to clearly explain their theses. "[W]hen we fail we do not expect our readers to confuse obscurity with profundity," he says and goes on to clarify that, "[i]t never was true that only a dozen people could understand Einstein's papers on general relativity, but if it had been true, it would have been a failure of Einstein's, not a mark of his brilliance." (Weinberg 1996)

Nothing to Communicate

In his lecture, Snow realises that his experience of a person who is a scientist by training and a writer by vocation is unique. Spending his working hours with scientists and going out at night with some literary colleagues he finds that, to his own surprise, he is a very rare animal, a native of two mutually incomprehensible cultures. After his thirty years of "moving among two groups comparable in intelligence, identical in the race, not grossly different in social origin, adding about the same income," (Snow 1961: 2) he feels he is entitled to pass judgement on the course Western civilisation is taking. His diagnosis is as follows: the intellectual life of the whole of Western society is being increasingly split into two polar groups "literary intellectuals at one pole – at the other scientists, and as the most representative, the physical scientists." (*Ibid.* 4)

What is striking in Snow's essay is the painful absence of science fiction, which could provide a potential link between the two cultures. He seems never

to have seriously thought about this literary genre. And yet, he must have read H. G. Wells, who at the time of Snow's youth was considered to be one of the most important British men of letters of the century. And he must have known, perhaps even on personal terms, Arthur C. Clarke and Fred Hoyle, both eminent scientists who wrote science fiction and who were British just like him. Clarke was a chairman of the British Interplanetary Society (Gunn 1998: 302) and Sir Fred Hoyle, a UK astronomer and writer, was the director of the Cambridge Institute of theoretical astronomy, where Snow was a professor of physics at the same time.

Twelve years Snow's junior, Clarke worked as a government auditor and served as a radar instructor in the RAF in the 1940s. During that time, Snow was also a physicist helping in the war effort, and he also had a government job. Calling Clarke "a kind of British Asimov" (Scholes and Rabkin 1977: 65) Robert Scholes and Eric S. Rabkin emphasize that he was a professional scientist who graduated with first-class honours in physics and mathematics from King's College London and whose literary style combined: "science and philosophy science and mysticism superbly" (*ibid.* 66). This is precisely the middle ground between science and the arts. C. P. Snow criticises literary intellectuals for looking down on the physicists, but he himself is equally myopic by ignoring Clarke.

Hoyle's best science fiction novel, *The Black Cloud* (which was first published in 1957, two years before Snow's *The Two Cultures*) is ironically about communication between two alien cultures: a sentient cloud of gas from outer space arrives at our Solar System and absorbs the light of the Sun. The scientists who attempt to communicate with the cloud suffer from exposure to its strange mentality. This novel may be read as an allegoric story about troubled contact.⁸ There is no doubt that science fiction in the late 1960s was rich, philosophically complex and capable of discussing the complicated issues of communication, language, and lack of understanding. Moreover, it was Snow's fellow scientists – the best physicists of their generation, that read and wrote science fiction, and yet Snow failed to take notice. Therefore, one cannot help suspecting that in the late 1950s and throughout the 1960s, science fiction was largely unknown to both scientific and literary communities. Instead, they were an isolated group

⁸ In the autobiography *My House Is Where the Winds Blow*, Hoyle remembers that Wolfgang Pauli loved that novel and jokingly called it a much better piece of writing than anything else Hoyle ever wrote, his physical papers included. Pauli was fascinated with the idea of a nonhuman intelligence that does not communicate verbally but, nevertheless, is eager to learn in order to enter into a dialogue with the human race.

of people who understood a lot but could not communicate with either of the two cultures, which likely did not treat them seriously.

Stanisław Lem, who in the 1960s already enjoyed the status of one of the most important and best-selling writers of his generation in Eastern Europe, was determined to show that science fiction is akin to the philosophy of science and can be used to discuss contemporary civilisation and its rather bleak future in an allegorical manner. In 1969, Lem published *His Master's Voice*, a novel which in parts reads like an essay similar to that which C. P. Snow had written a decade earlier. In *His Master's Voice*, science fiction-like events serve as a pretext for the narrator, Lem's alter ego, Prof Hogarth⁹ to discuss science, politics and the future of the human race. In the book, a neutrino-based message from the stars, a mysterious continuous emission of a sequence of signals, is recorded by American astrophysicists. The signal is too regular to be a natural phenomenon, it seems to be purposefully emitted by some sentient aliens in order to communicate with other civilisations. This hypothesis is further confirmed by the peculiar properties of the modulated neutrino wave. As initial attempts to decipher the message fail, and the authorities consider that the meaning of "the letter from the stars" might have some military potential, a top-secret project is created. A number of the best professors of diverse branches of the physical sciences and the humanities – from mathematics, astrophysics and biology to semiology, linguistics and anthropology – are gathered in a remote ex-military station in an American desert. Isolated in marvellously equipped laboratories, they spend all their time trying to crack the code the message seems to be written in. Divided into teams, groups and sections, they approach the task from the point of view of their diverse methodologies. Each of them proves to be equally helpless when faced with the voice from outer space, and their days in the MaVo (the Master's Voice) project reflect the ills of the contemporary

⁹ Lem discussed *His Master's Voice* a number of times in interviews and in his letters to friends. In *Lem. Mrozek. Listy* [Lem. Mrozek. Letters], writing to his friend Sławomir Mrozek, the Polish émigré, playwright and satirist, he provides the key to who is who in his novel: "Baloyne is Janek Błoński [a famous Polish Professor of literature]... Professor Hogarth is me, and, what is more, Rappaport's memories of the genocide also belong to me". (Lem and Mrozek 2011: 712, transl. DO) In *Sława i fortuna. Listy do Michaela Kandla 1972–1987* [Fame and Fortune. Letters to Michael Kandel 1972–1987], in a letter to his American translator, he discusses in detail Hogarth's moral stance, comparing it to his own (Lem 2013: 51) He also tells the story of how, in Lvov in 1941, he was to be executed along with other people arrested by the Germans in a purge on the streets. In what he thought were the last seconds of his life, he had a reincarnation fantasy, which over twenty years later he describes as a "Professor Rappaport's adventure." (*Ibid.* 111)

Academy: the futility of projects, over-specialisation¹⁰, lack of communication between diverse disciplines, isolation from the outside world, susceptibility to being used for political or propaganda reasons by the authorities, rivalry for financial support, jealousy, envy, frustration, narcissism and elitism.

Hogarth joins the MaVo project in its second year, when constant failures and a feeling of helplessness and frustration have exhausted both scientists and intellectuals. To his annoyance, he meets a group of scholars whose areas of expertise are, to the logical and reason-loving Hogarth, pseudoscientific: “I cannot for the life of me understand why, while people without driver’s licenses are not allowed on public roads, in bookstores one can find any number of books by persons without decency – let alone knowledge,” (Lem 1999: 21) he confesses. He also remembers a certain Dr Shapiro who provided a psychoanalytic interpretation of the project titled *His Master’s Voice between the Lines*: “from which I learned that the people of the Project were driven by a libido made unnatural by the projections of the newest-cosmic mythology of sex. Dr Shapiro is also in possession of precise information concerning the sex life of cosmic civilizations.” (*Ibid.*) To his dismay, Hogarth observes that the people in the MaVo project do not learn anything about the culture of the senders of the message, but they do learn quite a lot about themselves as its readers: “the ‘letter from the stars’ was, for us who attempted to decipher it, a kind of psychological association test, a particularly complex Rorschach test... so did we attempt...to discern the presence of what lay, first and foremost, within ourselves.” (*Ibid.* 32) Hogarth feels both offended by having to work hand-in-hand with people whose credulity is dubious and apprehensive that his own work may also reflect something subjective and unprofessional – an echo of his inner life that he would prefer to ignore. Thus, the most conspicuous division in the MaVo team echoes Snow’s 1959 observations:

[...] friction between the humanists and the natural scientists of the Project was the order of the day. The former we called “elves,” the latter “dwarfs.” The internal jargon of the Project had a rich vocabulary; it could serve, along with the forms that the coexistence of both “parties” took, as a worthy subject for some future sociologist. (Lem 1999: 68)

¹⁰ One should remember at this point that Stanisław Lem (who spent most of his adult life in communist Poland) did know the grim reality of Soviet science which was especially prone to the ills of over-specialization and nepotism.

Hogarth considers that inviting the elves¹¹ specialists into the project was a major mistake. The excess of esoteric explanations they produce and describe in the vocabulary of cultural studies is a veritable *embarras de richesses*. In general, the experts write too much. Moreover, because of the gigantic output of the project, the few ideas that are valuable get lost among the inexact New-Agesque rubbish.¹² Hogarth explains the hostility (and vulnerability) of linguists and other humanities scholars by their insecurity: "Our unfortunate 'elves' suffered frustrations and complexes because the truth of the matter was that they were condemned to complete idleness, albeit an idleness decked up in various appearances," he says. (Lem 1999: 69) Hogarth seems to be saying that Humanities scholars are redundant both in the contemporary Academy and in the MaVo labs. The charismatic professors of literature and modern languages are aware of their own redundancy and envy their scientist colleagues who earn far more and who study real objects: nature, matter, and physical laws. Elves cannot help Dwarves in anything at all.

In his description of the MaVo research laboratories, Lem allegorically depicts a contemporary ivory tower – members of the Academy are cut off from the outside world just like the MaVo specialists. The project is secret, its impact on society non-existent and all the professors do is quarrel with one another: "an oversize and complicated piece of machinery was set in motion on Earth in the face of the First Contact, and how much trouble it had with itself, with

¹¹ Michael Kandel, who translated *His Master's Voice* into English, departs in this paragraph from the original terminology and coins the terms elves and dwarves. These terms, which sound as if they were extrapolated from Tolkien, are very much at odds with Lem's hatred for heroic fantasy. In the Polish original, Lem uses "Fizy" and "Humy". "Fizy" is a neologism made of the beginning of the noun "Fizycy" (Polish for 'physicists'), and the suffix "-y" marks the Polish plural, like "-s" in English. Similarly, "Humy" is made from the first syllable of "Humaniści" (Polish for humanities scholars) with the same "-y" suffix.

¹² Hogarth is virtually horrified by the lack of methodological discipline displayed by his colleagues, even if they apparently represent exact fields, such as formal linguistics: "I was soon amazed to learn that, when it came to the primary, most fundamental concepts in this field – a field supposedly precise, quantified, mathematized – there was absolutely no agreement. Why, the authorities could not come together on so basic and preliminary a question as what exactly morphemes and phonemes were. But when I asked the appropriate people, in all sincerity, how in the world they could accomplish anything, given this state of affairs, my naive question was taken as a sneering insinuation. I had got myself – not realizing it in those first days – in the middle of a cross fire." (Lem 1999: 70)

its own workings, which certainly did nothing to further the attainment of its proper goal,” Lem (1999: 68) bitterly sums up.¹³

Apparently, Lem/Hogarth is on the dwarfish side of the conflict. He seems to be saying that if the scientists are left alone, they are sure to know better, and yet the reader soon realises that the picture of science Hogarth draws is far from perfect. The action of *His Master's Voice* takes place during the Cold War, whose gloomy presence is overwhelming. The site of the project is a remote military base, deep within the desert and uncannily resembles Los Alamos. It is lonely, full of dunes, breath-taking sunsets and a tangible feeling of anxiety. Set in the heart of the desert, the base consists of living quarters, labs and an authentic testing ground dating from the days before the nuclear memorandum:

The entire complex of buildings was surrounded by a system of slanted shields that faced the desert; their function was to break up the shock waves. All the structures were windowless and doublewalled, the space between filled, probably, with water. Communications were put below the ground. As for staff housing and the buildings designated for operations, they were oval and placed so that no dangerous resonance would result in the event of repeated reflections and deflections of a wave front. (Lem 1999: 54)

Confined in such a secret place designed for nothing but military research, the scientists cannot help but remember the war and their colleagues who were involved in the Manhattan Project:

One had only to remember the Manhattan Project and the fate of people among those who directed it but were scientists, not generals. While the latter were all promoted and could tranquilly set about writing their memoirs, the former, with surprising regularity, met with “ostracism from both worlds,” i.e., the worlds of politics and science. (Lem 1999: 58)

In numerous books about Robert Oppenheimer, the director of the Manhattan Project who produced the atom bomb and was later punished for completing his task, is compared to a modern Prometheus.¹⁴ Similarly, Hogarth thinks about his fellow scientists in the MaVo project as if they were personages from myths: “I reminded him of the Promethean myth... the marches of science, worthy of

¹³ One cannot help noticing that there are virtually no women professors in the novel – not one of the scientists (and none of the humanities scholars either) is female.

¹⁴ Oppenheimer is still frequently likened to the ancient Greek Titan, as in the award-winning biography *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (2005) by Kai Bird and Martin J. Sherwin.

respect and even reverence, should all converge, as at a source; but the myth praised not disinterestedly comprehending but seizing hold, not knowledge of but mastery over," he says. (Lem 1999: 151)

Judging from their memoirs, people like Oppenheimer, Teller or Feynman did enjoy the life they had in the desert and their work on particle physics and nuclear chemistry, which was puzzling, challenging and intellectually gratifying. Yet after the war, they had to face the previously suppressed realisation that their science had killed innocents. Nearly forty years after leaving New Mexico, Richard Feynman, one of the youngest and brightest physicists in the Manhattan Project, tried to explain in his memoir *Surely You're Joking, Mr. Feynman* the strange mixture of emotions the Los Alamos physicists felt. For years Feynman refused to talk or write about the bomb. And when he does talk in public he chooses to restrain himself to philosophy "how science satisfies curiosity, how it gives you a new worldview, how it gives man the ability to do things, how it gives him power – and... in view of the recent development of the atomic bomb, is it a good idea to give man that much power?" (Feynman 1992: 279)

Thus, having the history of science in mind, Hogarth is painfully aware that the humanities scholars who are silly and bombastic are also harmless, while logic-loving, disciplined scientists have already developed weapons of mass-destruction, prompted the Cold War and put the entire human race in mortal danger. The uncanny secrets the MaVo project may reveal could prove even more deadly. The scientists live in compounds where all the buildings are standing on gigantic concrete legs, between which, across the empty concrete parking lots "blew only the hot wind, powerful as from the blast furnace." (Lem 1999: 71) The scientists and the humanities scholars spend almost all their time inside the buildings. They travel underground, where they are reminded of the threat of nuclear war at every step. The giant orange double S-s (standing for shelter stations) shines night and day. "The general impression you received was that you were standing at the notorious 'ground zero' and that any minute the sky would open up above your head in a thermonuclear explosion," (*Ibid.* 71) Hogarth confesses.¹⁵

¹⁵ This mythic allusion seems to me to be rather important considering that it was at Los Alamos that people saw a nuclear explosion for the first time when it was tested in the spring of 1945. Those who were at the test site left vivid descriptions of the events in their letters, memoirs, interviews and books. It seems that the common denominator of their accounts is a prevailing feeling of the novelty of seeing what no one has ever seen before. The spectators emphasize their inability to express themselves as their prior experiences contained nothing from which to draw a comparison: "the atom bomb did

As already stated, the MaVo project seems to represent the contemporary Academy, and the failure of the project is symbolically the failure of Western civilisation. Lem was a pessimist, and his diagnosis of the direction our civilisation was taking was very harsh. His non-fiction makes the same point in a very sharp manner. The development of science in the last 200 years has been rapid but random. Basic research might have quite unexpected results: “discoveries, which can turn half of our knowledge upside down appear out of the blue sky. How can you foretell what is yet undiscovered? Being so very ignorant we may only, judging from the history of mankind and the history of science, emphasise how very surprising the new discoveries are,” (Bereś 2002: 254, transl. DO) he said to Stanisław Bereś in the book-long interview titled *Tako Rzeczy...Lem* [Thus Spake...Lem]. What is more, literature and other arts, which traditionally explained newly discovered scientific facts and discussed progressively changing ideas concerning the universe, now fail to do so. In a letter to Sławomir Mrożek, Lem complains:

As far as art goes, it used to belong in the realm of magic and religion, but slowly it has grown to be an ally of science in explaining humankind and the world. Yet this epoch is also receding into history and today art and science are growing apart. Literature used to “bring the visible world to justice”¹⁶ but you can only bring to justice what you understand. If you cannot understand the mechanism, your judgement results from despair, scorn, anger, whatever, but not justice. Therefore, art splits into a conformist branch and a branch which says “no” to civilisation. (Lem and Mrożek 2011: 331, transl. DO)

Scientists Don’t Read, Scholars Don’t Earn?

Writing about the growing distance between the two cultures, Snow notices that non-scientists think scientists are boastful and shallowly optimistic, whereas scientists believe that literary intellectuals are irrational and love brooding. The best example of the latter might be T. S. Eliot’s famous lines at the end of *The Hollow Men* “this is the way the world ends/Not with a bang but with a whimper”, which to physicists sounds like “one of the least likely

not fit into any preconceptions possessed by anybody.” (Rhodes 1986: 674) As a result, the Los Alamos reports are full of approximations and parallels and elements from religion and literature – metaphysical poetry, Shakespeare’s dramas, Greek myths, Sanskrit epic poetry – serve as the vehicles of these metaphors.

¹⁶ This is a travesty of Joseph Conrad’s famous quote from the preface to *A Nigger of the ‘Narcissus’*, where he formulates his artistic creed.

scientific prophecies ever made". Scientists think they want to change the world, move forward, learn more, discover and understand more, while intellectuals think they have insight into man's loneliness which, "tempts one to sit back, ...and let the others go without the meal." (Snow 1961: 7)

Snow himself sounds a little confused. Criticising intellectuals, he writes like a scientist, but talking about scientists, he adopts the opposite point of view: he is an intellectual who, just like, say, an anthropologist, watches the 130,000 (*ibid.* 12) working British scientists, professional engineers and applied scientists with intellectual curiosity:

the scientific culture really is a culture, not only in an intellectual but also in an anthropological sense. That is, its members need not, and of course often do not, always completely understand each other; biologists more often than not will have a pretty hazy idea of contemporary physics; but there are common attitudes, common standards and patterns of behaviour, common approaches and assumptions [...] without thinking about it they respond alike that is what the culture means. (Snow 1961: 11–12)

This group generally does not read fiction. When asked about their favourite novels they confess that they do not have any, though they have tried some Dickens "as though Dickens were an extraordinarily esoteric, tangled and dubiously rewarding writer, something like Rainer Maria Rilke." (Snow 1961: 13) Moreover, they fall into the trap of narrow specialisation.¹⁷

¹⁷ This diagnosis is quite surprising; less than twenty years earlier, physicists working in Los Alamos were members of a generation with a profound knowledge of Western heritage, educated in the 19th-century manner with its emphasis on the classics. They did know their humanities, their Latin and Greek, their European literature. It was precisely just after the Great War that Sigmund Freud wrote *Beyond the Pleasure Principle* and *Civilization and Its Discontents*, essays in which he describes the death drive as superior, older and stronger than sexual instincts. The latter paper called the entirety of human civilization a mistake: for societies to function, each individual is forced to renounce his or her natural drives and desires and to repress narcissism and self-love, replacing them with respect for the rights of fellow-citizens. Such a forced respect means that every new-born baby is, in a but few years, taught to control his/her natural instincts and become a moral being. This is favourable for society as a whole, but frustrates each and every individual. Internalized aggression in a moment of stress "is sent back where it came from, i.e., directed against the ego" (Freud, 792), and thence neuroses. The common good is built on personal repression, Freud says, and the day the human race chose the narrow path leading to civilization was the day we renounced happiness forever.

Scientists can procure an Armageddon, but literary intellectuals are, in their own way, as ignorant as the scientists. In *The Two Cultures*, Snow complains: “they still like to pretend that the traditional culture is the whole of culture as though the natural order didn’t exist.” (*Ibid.* 15) To make things worse, as early as in the 1960s, the gap between the money earned by young scientists and their counterparts from history or English departments was wide and it has continued to widen. The latter earn 60% of the former’s salary, and thus “the young scientists now feel that they are part of a culture on the rise while the other is in retreat... No young scientist of a talent would feel that he isn’t wanted or that his work is ridiculous.” (*Ibid.* 19)

Half a century later, Jonathan Gottschall, from the Department of English, Washington & Jefferson College and the author of *Literature, Science, and a New Humanities*, argues in a very similar manner that contemporary literary scholars feel oppressed and redundant. Everybody agrees that the academic field of literary studies is in trouble – for decades enrolment in undergraduate humanities majors has been declining. Moreover, the social sciences are underfinanced and considered to be an increasingly marginal part of higher education worldwide. The professorial job pool has evaporated, and the overproduction of new PhDs has produced an army of unemployed academics. To make matters worse, literary scholars are losing their self-esteem as they are not taken seriously by their students, by their colleagues from different departments or by the educational authorities. According to Gottschall, they are becoming “the laughingstocks” of the Academy:

We are savagely parodied in academic novels, humiliated by hoaxers, and held up to ridicule by satirical journalists¹⁸, who richly feast themselves at the discipline’s main conferences. This is all revenge for our perceived pretentiousness, for the impenetrability of our verbiage, for our unearned moral vanity, and for our apparent contempt for reality. (Gottschall 2010: 458)

Having sketched all aspects of the division, Snow feebly suggests that the cure might be found in less intense specialisation in the way young people are

¹⁸ Though no examples of specific literary scholars are given in this article, the allusions are quite clear. The savage parody Gottschall has in mind can be found in David Lodge’s comic campus novels, and the scholar in question is Professor Stanley Fish, depicted as the postmodern guru Professor Morris Zapp. In the already-mentioned “Sokal’s Hoax”, an essay published in the *New York Review of Books* in 1996, Steven Weinberg observes that Stanley Fish was the executive director of Duke University Press which published *Social Text*, the cultural studies journal mercilessly humiliated by the most famous hoaxer of contemporary Academia, Alan Sokal.

educated. He proposes to rework school curricula introducing more subjects, which would be taught widely but less rigorously. Nevertheless, the tone of *The Two Cultures* is first and foremost pessimistic, and the split seems irreversible. Snow's text was first delivered a number of times as a lecture in the late 1950s; it was later published and reprinted.

Conclusion

In Stanisław Lem's *His Master's Voice*, humanities scholars and scientists are fighting with each other, and both groups isolate themselves from society, which in turn ignores them. In 1959, Snow postulated re-uniting the two cultures through educational reform. In the 1960s and 1970s, Lem did not believe any reform was possible. Rather, he prophesied that science left alone would procure the final war and, probably, a self-inflicted technological death of the West. Yet it is technology, the third culture, that replaces today the traditional two cultures instead of constituting a breach between them. In *Filozofia przypadku* [The Philosophy of Chance], a book-long essay on contemporary literature, Lem complains that in the second half of the 20th century:

Technology is the first natural enemy of art, it kills the origin of art because it works through depersonalisation. Contemporary technology depersonalises both the process of making the product and the readymade product itself... Jobs which promote individual talent, creativity and genius are decreasing... Today, depersonalisation of production is also affecting science, and the days of grand genius scientists working alone, day in and day out, in secret labs are receding into history. (Lem 2002: 341, transl. DO)

And again, science fiction discourse can give an intellectual framework for discussing these issues. Thus, it is worthwhile to reverse the perspective: instead of discussing the way science fiction is perceived by literary scholars and scientists, one can also analyze the way science fiction writers perceive the conflict between two cultures in the subsequent decades of the last century.

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